



CIVIL ReMARKS

■ CIVIL AND ENVIRONMENTAL ENGINEERING ■

A newsletter for the alumni
and friends of the Department
of Civil & Environmental
Engineering

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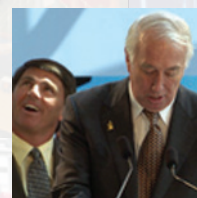
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CURRENT RESEARCH



CEE CELEBRATES 100TH ANNIVERSARY IN 2008



DETAILS ON PAGE 3



CHAIR'S MESSAGE

Greetings to our readers.

While in the midst of preparing for next year's centennial celebration, we received word that our department has been ranked by U.S. News and World Report as 20th in the nation and 13th among public universities.

This is an improvement over last year, when we were ranked 23rd in the nation and 15th among public universities. I find it very gratifying that these days as we reflect on the past, we continue to march towards our goals for the future.

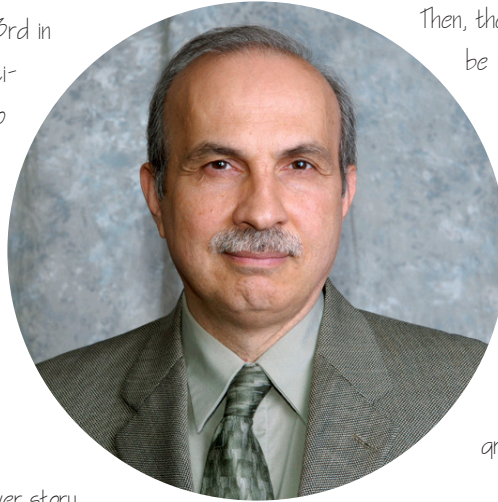
And, as always, this newsletter provides you our readers with an up-close glimpse of what we are accomplishing here at CEE.

As I mentioned before, we are busy preparing for our 100th anniversary in 2008. Much is being planned to celebrate this milestone. Our readers and especially our alums will find our cover story on the CEE centennial full of information for what we have in store for this celebration. I especially want to thank Professor Richard McCuen, who is heading up our centennial committee, for his hard work. He himself has been a faculty member here for over three decades. I can think of no one better to lead this effort.

Speaking of Professor McCuen, we profile his ENCE 305: Fundamentals of Engineering Fluids course in this issue. Professor McCuen has taught the course since first coming to the university years ago. It continues to be an important course in helping students understand the relevance of fluid mechanics to all majors in engineering and to all areas in civil engineering. Students say they find Professor McCuen's use of real-world examples especially useful.

Other faculty members we profile include Professor Glenn Moglen and the research of Professor Elise Miller-Hooks. Professor Moglen is an alum of our department who returned to join us as a faculty member. He is a gifted teacher and conducts important research that focuses on environmental engineering and more specifically water resources. We are pleased to call him one of our own, both as an alum and fellow faculty member. Professor Miller-Hooks has just completed her research with REORIENT, which is funded by the European Commission and was established to assess the process of transforming the European railways intermodal operating systems. Working with a research team from the university, Professor

Miller-Hooks presented her findings at REORIENT's final conference in Brussels this past May. She has been involved with the project since 2005. It is important international work, and we are very proud of her contributions to it.



Then, there are our students. I continue to be impressed by the caliber of young people who come into our program. In this issue, we introduce you to a promising young engineer, Alan Coleman. He has taken advantage of his education here, not only in the classroom but outside of it as well, having built an impressive resume before even graduating.

Of course, we always enjoy profiling our alums. They are an impressive group of individuals. This is especially true of Professor Raymond Krizek, who came to the university in 1957 and received his master's degree in 1961. Revered for his work in geotechnical engineering, he has also spent his career committed to guiding and mentoring the next generation of engineers as a faculty member and department chair at Northwestern University. He says that he discovered his love of teaching while a graduate student here. Just another example of the rich history that we can claim as our own.

Finally, we introduce you to staff member, Stephanie Peters. As I often say, our staff is the backbone of our department, keeping us up and running on a day-to-day basis. Ms. Peters certainly does her part. She recently joined us as a business manager and brings with her a wealth of experience working at the university. We are fortunate to have her. Although, I hear she could easily be persuaded to work at Disney World, hopefully, she will stay with us for a while.

Ali Haglani



"When you graduate you receive a yearbook. Well, this yearbook will enable individuals to look over time to the period when they were at the university."

There is much to be remembered and acknowledged. According to McCuen, CEE's illustrious alums include Harry Clifton "Curly" Byrd, former president of the university, and A. James Clark, for which the Clark School is named. There have been 131 faculty members and instructors teaching within the department over our first 100 years. "Three of them were deans," says McCuen, "and two of them taught for 38 years."

CEE is currently gathering information for the centennial book, which will be available to alumni and friends early in 2008. We are encouraging alumni to respond with photos, stories and updates on individual achievements. Photos of student groups are especially needed. Anyone who submits a photo that we use on the cover of the book will receive a free copy of the centennial book. Photos sent to us will be returned. We would also like to hear of your remembrances of faculty or departmental and student activities. Those interested can contact McCuen at cee_centennial@umd.edu or regular mail at: Dr. Richard McCuen, Department of Civil and Environmental Engineering, University of Maryland, 1173 Glenn L. Martin Hall, College Park, MD 20742-3021.

Civil & Environmental Engineering Celebrates Its Centennial in 2008!

The Department of Civil and Environmental Engineering (CEE) stands on a solid foundation of growth and achievement. And, next year, 2008, the department will celebrate a significant milestone – our 100th anniversary. "This will be a time of celebration and remembrance for our faculty, staff, students and most importantly our alumni," says Ali Haghani, department chair.

CEE is marking this event with several activities, including a reception and banquet scheduled for April 4 and 5, respectively. Also on April 5, CEE will be hosting a day of discussion about the future of civil engineering education and professional practice. Please mark these dates on your calendar and plan to attend. More detailed information on the activities will be sent as soon as details are confirmed. "We're looking forward to having many alumnae attend and participate in the discussions," says Professor Richard McCuen, who is heading up the centennial committee.

In honor of the anniversary, CEE is working on a centennial book that will highlight our first 100 years with photos and personal anecdotes spanning the years. "It's sort of our 100-year yearbook," says McCuen.

Link Receives Award of Excellence for Work in Aftermath of Hurricane Katrina

storm's impact, which is praised for clarity, objectivity, thoroughness, and for making critical design-change recommendations immediately available.



Lewis E. (Ed) Link, a senior research engineer with CEE, was recently honored by the Engineering News-Record (ENR) with its Award of Excellence for his work heading the Interagency Performance Evaluation Taskforce or

IPET. IPET was responsible for decoding Hurricane Katrina in an effort to improve natural hazard defense.

The recipient of the Award of Excellence and the recipients of the Top 25 Newsmakers were selected from a large pool of nominees who were judged by ENR editors to have made the most important contributions to the industry and the public in 2006. Link was earlier chosen as one of ENR's Top 25 Newsmakers.

"The ENR Award of Excellence is great recognition for the outstanding work of the Interagency Performance Evaluation

Task Force," says Link. "I am proud to represent the over 300 people from 25 universities, 23 companies and 10 government agencies that supported this effort, including a significant number of the faculty from CEE."

Faced with an urgent need to understand why flood protection systems failed New Orleans during Hurricane Katrina, the Army Corps of Engineers tapped Link to lead the inquest. The result is a landmark analysis of the



"One rarely gets the opportunity to be a part of something this significant and meaningful," says Link. "It has been a privilege to be the director of this effort and to work with this unique and outstanding team."

U.S. News
& World
Report
Just In -
CEE Moves
Up Three
Notches
From Last
Year!!

CEE Ranked 13th Among Public Universities

In the most recent ranking of U.S. News and World Report, CEE was ranked 20th in the nation and 13th among public universities. The department was ranked 23rd last year and 15th among public universities. "This is great news for the department," says Ali Haghani, department chair.

Kristin Gilroy Receives EHP's Most Outstanding Research Award

Kristin Gilroy, who received her bachelor's degree this past May, received recognition for her undergraduate research as partial fulfillment for the Engineering Honors Program (EHP). A faculty panel selected her as co-winner of the May 2007 Most Outstanding Research Award for EHP. She completed an undergraduate thesis titled "Effects of BMP Location and Quantity on Micro-watershed Hydrologic Response." This fall, Gilroy will start her master's program in hydrology/water resources as a graduate research assistant.

\$1,000 Scholarships For Ruizhi Pei And Boo Young Chung

Graduate students Ruizhi Pei and Boo Young Chung were the recent recipients of a \$1,000 scholarship each from the Associated Builders and Contractors of Metro Washington's Scholarship Fund.

Kevin Biringier Pitches For Maryland

Kevin Biringier, a pitcher for the university's baseball team, is a civil engineering major. Biringier, who is originally from Albuquerque, New Mexico, transferred from Bradley University to the university in part because of the engineering program here.

(photo courtesy: http://umterps.csv.com/sports/m-basebl/mtt/biringier_kevin00.html)

Project Management Grows In Popularity

The Project Management Program filled an all-time high of 719 class seats this past year, compared to last year at 600 seats. The program draws both full-time and part-time students at the undergraduate and graduate levels. According to John Cable, the program's director, the primary reason for this growth is the success of the Master of Engineering in Project Management on-line.

Yves Twagirayezu Survives Rwanda Horrors To Graduate

Yves Twagirayezu overcame incredible obstacles to graduate this past May and receive his degree in civil engineering. The Rwandan-born Twagirayezu was only 10 years old when he saw his brother beheaded in the Rwandan bloodbath of 1994. He survived only because he jumped into the hole



TRAFFIC OPERATIONS ACADEMY PRODUCES EXPERTS

Designing and building more roads is not the only way to solve the nation's traffic problems. Managing the flow of traffic on those roads is as vital as paving them, according to a new educational program offered to the nation's state highway administrators by traffic researchers at the Clark School and CEE.

For example, over a two-year period, the Maryland State Highway administration developed improved signal timing for 330 traffic signals. This work resulted in a 13.9 percent reduction in delay, a 10 percent reduction in the number of stops made by arterial traffic, and a 2.4 percent reduction in fuel consumption. This produced an estimated two-year benefit to the motorist public of \$60 million—significant in an era of rapidly increasing gasoline prices.

Such insights—and how to put them into practice—are among the topics covered by the Operations Academy, a new program presented by the Center for Advanced Transportation Technology (CATT), a research group within CEE. The academy has recently produced its first graduating class, a new cadre of 22 traffic experts from across the country who use an operations perspective, and operations solutions, to solve traffic problems.

"In the transportation community, there is a shortage of folks with operations experience," explains Phil Tarnoff, CATT director. "Most highway offices specialize in building and there is a lack of focus on traffic flow in most university transportation courses. Our program fills the gap."

The program is the first of its kind in the nation to offer focused training dealing with the effective management of the transportation system—120 hours of intense immersion in signal studies, traffic flow and safety measures, in addition to personnel management, funding and supply/demand relationships. The course fills a critical need as

more vehicles clog the nation's highway systems, says Tarnoff.

The Operations Academy is open to employees in any public agency and is targeted towards mid- to high-level managers in transportation departments on the local, state and national level. The first cohort this spring boasted traffic officials from New Mexico, Pennsylvania, North Carolina, New Hampshire, Massachusetts, Florida, Washington State, Maine, New York, Illinois, Arizona and Texas.

The students noted the valuable interactions with their colleagues from around the country, in addition to the workshops, field trips and coursework.

"This program allowed me time to interact with other agencies that are already performing the functions of what New Hampshire will be doing in the next 10 years," says Jon Hanson, assistant administrator of the New Hampshire Department of Transportation's Bureau of Turnpikes.

The program involves a week of pre-study (including exams) in traffic operations, traffic safety, planning, intelligent transportation systems, freight and management. Then, the students converge for formal instruction by industry experts and faculty. To complete the program, students must pass a final exam.

Students also participate in field studies including freeway service patrol ride-alongs, visits to traffic operations centers and a tour of the Port of Baltimore container facility. Workshops on solutions to congestion and the creation of an operations unit are also a part of the curriculum.

The Operations Academy is funded by the I-95 Corridor Coalition. A steering committee made up of representatives from the Coalition, state transportation departments, the Institute of Transportation Engineers and private industry assisted in developing the program.

The next Operations Academy session will take place Nov. 5-15, 2007.

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YEAH, TERPS

SENIOR HAS SPENT COLLEGE CAREER 'ROOTING FOR TERPS' AND BECOMING A BETTER ENGINEER

Living in Silver Spring, Md., Alan Coleman grew up "rooting for the Terps," as he puts it. And, while going to the nearby college where his father was an alum was always a possibility, his choice of engineering as a major was not. "My father is a musician and my mother is a lawyer," explains Coleman with a grin. "I got into engineering by chance."

But, Coleman had a natural affinity for physics, and the sciences, and math and was encouraged by a high school teacher to consider engineering. He did. And he hasn't looked back.

cations Arts Program, finishing with honors, but continued to take math and science courses as well. "I wanted to be exposed to the best of both worlds," he says.

One of his teachers took note of his abilities and suggested that he consider engineering as a possible career choice. Coleman was intrigued and took a summer course in engineering at Johns Hopkins while still in high school. As a result, he chose to major in civil and environmental engineering once at the university, adding the project management program as a minor. "I really like the construction aspect of it," he says of the field.

The recipient of numerous scholarships, including the Dean's Scholarship and the department's Russell B. Allen Scholarship, Coleman was chosen for the "Inventis: Academy of Engineering Leadership" program and is a graduate of the College Park Scholars Program in public leadership. "I think it is important to be well-balanced," he says. "You use all kinds of skills as an engineer."

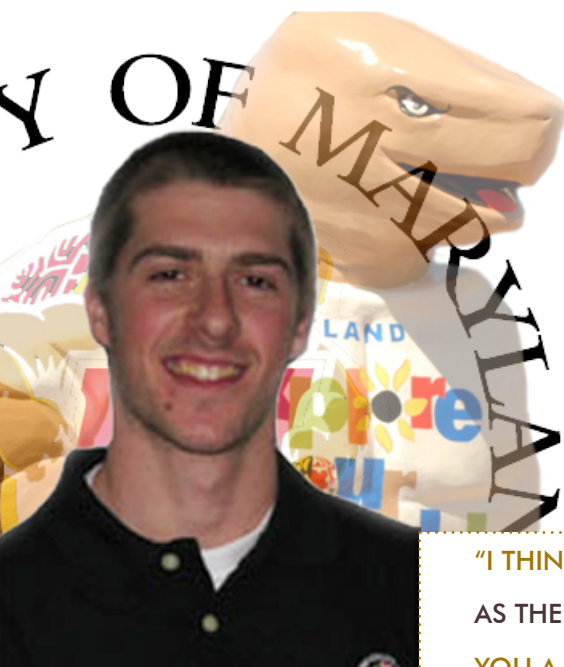
Through the Inventis program, Ali Haghani, department chair, was assigned Coleman's mentor. "Dr. Haghani has looked after me since my first year here," says Coleman.

says Coleman. "Actually working on a project gives you a deeper understanding of how things work. You become a better engineer. The university and the engineering school encourage and support this."

Coleman spent this summer working with Whiting-Turner and assisting in the project management of the construction of the Johns Hopkins Applied Physics Laboratories. Prior to that he was an engineering assistant with Geo-Technology Associates and a student assistant with the Maryland State Highway Administration, where he was assigned to the Woodrow Wilson Bridge project under Potomac Crossing Consultants. "The Woodrow Wilson Bridge project was one of the biggest projects in the country with some of the greatest engineers in the field," he says. "It was a real enlightening experience for me."

Coleman says he has enjoyed all aspects of his education as he prepares to graduate with plans of going to work and then maybe graduate school. While a student here, he has been president of the Maryland Chapter of the Engineering Student Council (ESC) and was selected to represent the engineering school to prospective students as a Clark School Ambassador. He is currently the ESC/SGA liaison for ASCE.

Then there are the other activities. "I can count the number of times I have not been to a basketball or football game on one hand,"



"This has been a good fit," says Coleman, a senior majoring in civil and environmental engineering with a minor in project management. That statement applies to his choice of schools as well. "I looked at other schools, but always thought I would end up at Maryland," he says. "The program is as good or better than anywhere else I would have considered."

At Montgomery Blair High School, Coleman participated in and completed the Communi-

"I THINK THAT THE EXPERIENCE OUTSIDE OF THE CLASSROOM CAN BE AS IMPORTANT AS THE EXPERIENCE IN THE CLASSROOM. ACTUALLY WORKING ON A PROJECT GIVES YOU A DEEPER UNDERSTANDING OF HOW THINGS WORK. YOU BECOME A BETTER ENGINEER. THE UNIVERSITY AND THE ENGINEERING SCHOOL ENCOURAGE AND SUPPORT THIS." — ALAN COLEMAN, STUDENT

"He has given me advice on internships and classes. It gave a good boost to my education."

But, he has not been content to confine his education only to the classroom. Coleman has an impressive list of outside work experience on his resume already. "I think that the experience outside of the classroom can be as important as the experience in the classroom,"

he says with a chuckle. "I keep thinking as soon as I graduate, I won't be able to go anymore and all the games I'll miss. I'm making up for that now."



CEE Awarded Two-Year \$4 Million Research Contract By MD DOT SHA

CEE was awarded a two-year \$4 million research contract by the Office of Policy and Research in the Maryland Department of Transportation, State Highway Administration (SHA). Ali Haghani, professor and chair of the department, is the principal investigator. The scope of the project includes a series of specific tasks to be developed by the Maryland SHA and agreed upon by the University of Maryland on an as-needed basis. The types of tasks that fall within the

scope of this project typically include research support, feasibility and pilot studies, and development and delivery of training courses; among others.



Professor Gerald Galloway Testifies Before Congress On Global Climate Change

Gerald Galloway, president of the American Water Resources Association and a Glenn L. Martin Institute Professor of Civil and Environmental Engineering, testified before the House Transportation and Infrastructure Committee on Global Climate Change. The hearing was held on May 16, 2007, on Capitol Hill. In his testimony Galloway urged the lawmakers to initiate substantive efforts to develop a coordinated, collaborative and national

approach to preserving and protecting the nation's water resources now. He concluded that failure to do so will threaten the health and welfare of American citizens, endanger the economy, weaken national security, and pass the problems to the next generation.



Professor Deborah Goodings Recognized

Professor Deborah Goodings has been recognized for her successes in leading the university's chapter of Engineers Without Borders (EWB) by receiving the university's Outstanding Advisor for a Student Organization award. The EWB chapter, in existence since 2004, has completed simple infrastructure projects in Thailand, Ecuador, Brazil and Burkina Faso, winning awards nationally and internationally. Goodings has also been named

to a three-year appointment on the Visiting Committee for the Department of Civil and Environmental Engineering at the University of Delaware. The department has close to 350 undergraduates and over 150 graduate students, many of whom conduct research in the department's special centers for the study of coastal engineering, intelligent transportation, bridge engineering and metals in the environment. The University of Delaware is a state-supported, privately chartered institution

and is the largest university in the state of Delaware, with its main campus located in Newark and four satellite campuses.



Professor Steven Gabriel Awarded The Gilbert F. White Fellowship

Professor Steven Gabriel has won the prestigious Gilbert F. White Fellowship at Resources for the Future for the academic year 2007-2008. Resources for the Future (RFF) is an internationally-renowned, independent institute headquartered in Washington, D.C. It is dedicated entirely to the analysis of environmental, energy and natural

resource issues. Gabriel will spend a large portion of his sabbatical year at RFF analyzing global natural gas markets, as well as convergence and modeling issues in large-scale energy-environmental models. Gabriel was also an invited speaker in Tokyo, Japan, at a gathering sponsored by the National Graduate Institute for Policy Studies and Tokyo Gas, a major Japanese energy company. The event was held on March 22 and 23. The talks focused on global energy supply security incorporating elements of game theory and stochastic optimization.



Professor Skibniewski Presents Lecture At Hong Kong Polytechnic University

Mirosław Skibniewski, professor and A. James Clark Chair in Construction Engineering and Management, presented a lecture on "Assuring Success of Integrated Enterprise Management Solutions for the Construction Industry" at the Hong Kong Polytechnic University. The event was held on June 5 in Kowloon, Hong Kong.



New Report From Water Policy Collaborative Released

A newly released report from the Water Policy Collaborative at the University of Maryland says that the use of the 100-year flood standard leaves millions of people who face a significant risk of flooding uninsured and under-protected. The report, prepared for the Federal Emergency Management

Agency (FEMA), recommends that levees protecting urban areas should be built with a higher level of protection than the 100-year standard that is now being used to rebuild the levees in New Orleans. The study was co-directed by Professors Gerald Galloway and Gregory Baecher.

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COMING BACK

MOGLEN RETURNS TO HIS ALMA MATER TO BECOME SUCCESSFUL TEACHER AND RESEARCHER



Glenn Moglen is a former CEE student who has returned to the department as a faculty member. "It is a little bit like living with your parents after coming back from college," he says with a grin. "You are an adult among people who remember you sort of as a child."

But not any longer. Moglen has made his own way at his alma mater as a teacher and

program, "I knew this was a strong school," he says.

In fact, Moglen says it was a fluid mechanics class with Professor Richard McCuen that firmly set him on his current path as an environmental engineer. "You're learning about the natural world and describing that natural world," he recalls. "With manmade constructed materials, we understand their behavior much better. That's not so with the natural world. There's still this element of mystery and science. I found it very interesting, as well as challenging and meaningful."

Before getting to know McCuen, Moglen had planned on graduating and going right to work. However, "He was so instrumental in encouraging me to expand my career vision and go on to grad school," says Moglen of McCuen. "That set everything in motion for me."

"OUR CONSUMPTION OF THE LANDSCAPE FAR OUTSTRIPS THE SIMPLE POPULATION GROWTH IN THIS COUNTRY. NOT ONLY ARE WE GROWING, BUT IN A MORE CONSUMPTIVE WAY. I WANT MY RESEARCH TO HELP MAKE LAND DEVELOPMENT DECISIONS IN A MORE DELIBERATE AND CONSCIOUS WAY WITH AN EYE TOWARDS THE IMPACT ON STREAMS AND OTHER WATER RESOURCES." — PROFESSOR GLENN MOGLEN

researcher. He received his bachelor's degree from CEE in 1987 and then went on to attain a master's degree from Colorado State University in 1989 and his Ph.D. at MIT in 1995. He joined CEE's faculty as an assistant professor in 1996 and is now an associate professor. Today he is an honored teacher and conducts research that focuses on environmental engineering and more specifically water resources. "Like a lot of students I was drawn to the idea of environmental engineering because of my concern and love for the environment and outdoors," he says.

Moglen, who grew up in nearby Kensington, Md., attended the university and its engineering program because of the scholarships made available to him and the in-state tuition. But once on campus and into the academic

McCuen is still a member of the faculty and now a colleague of Moglen's. "I had to get used to calling him Rick," says Moglen with a chuckle. "And, not Dr. McCuen"

After receiving his Ph.D., Moglen went to work as a visiting scientist for the National Weather Service. But all the while he wanted a career in academics. When his alma mater came calling, he was eager to respond. "I was drawn to the idea of teaching," he says. "That really appealed to me."

Since joining CEE, he has been chosen as a Center for Teaching Excellence/Lilly Fellow during the 1997-1998 academic year and more recently was selected as a Fellow for the Academy for Excellence in Teaching and Learning on campus.

Among the courses he most enjoys teaching is ENCE 301: Geo-Metrics and Geographic Information Systems in Civil Engineering. ENCE 301, a groundbreaking course, enables students to take advantage of GIS's aspect of providing a visual representation of layers of data that coincide spatially.

Under CEE's former curriculum, the course was offered at the senior level as an elective, but has since been restructured to be a junior-level requirement. "The department recognized that this was a course that was more fundamental than just as a senior-level elective," says Moglen. As well as being a vital part of the future of engineering, CEE, says Moglen, recognized this early on as

well. "We're still one of the few civil engineering programs in the country that offer and require GIS at the undergraduate level."

Moglen uses GIS in his own research, such as assessing the hydrologic consequences of land use change. "I think the human eye responds to and understands spatial patterns in an intuitive way," he says. "This is the strength of GIS, and what makes it so compelling. I think land use and land use change are the most fascinating elements of my work. I'm often stopped in my tracks just looking at old maps and aerial photographs of places familiar to me."

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Professor Richard McCuen And CEE Alum Lauren Schnieder Honored With Best Technical Note Award

Professor Richard McCuen and Lauren E. Schneider, a CEE alum, received the ASCE's Journal of Hydrologic Engineering Best Technical Note Award in recognition of their technical note on "Assessing the Hydrologic Performance of Best Management Practices," published in May/June 2006. The award is given by the Environmental and Water Resources Institute Watershed

Council and was presented during the World Environmental and Water Resources Congress, May 15-19, in Tampa, Fla.



Professor Donald Vannoy Honored

Professor Donald Vannoy has been selected to receive the Maryland Section of the ASCE's Meritorious Service Award for 2007. This is in recognition of Vannoy's accomplishments and service to the Section and the community.



Professor Stuart Milner Awarded Three-Year NSF Grant

Professors Stuart Milner and Christopher Davis (ECE) have been awarded a three-year, NSF grant for "Transceiver and Network Technology Developments for Directional Hybrid Wireless Networks." Davis is the principal investigator; Milner is co-principal investigator. This research will address important, unsolved research problems in stabilization, pointing, acquisition, tracking



Professor Ahmet Aydilek Promoted

Professor Ahmet Aydilek has been promoted to associate professor with tenure effective August 17. Aydilek's research interests are in geotechnical, geoenvironmental and geosynthetics engineering.



CapWIN Presented With The 2007 Most Cutting Edge Presentation Award

The Capital Wireless Information Net (CapWIN) received the Most Cutting Edge Presentation Award at the 2007 MobileGOV Strategic Intelligence Meeting, sponsored by ConVurge. Tom Henderson, CapWIN executive director, and Bruce Barney, deputy director for technical services, presented their experiences in multi-agency interoperability between federal, state and local agencies to win the award, as voted on by MobileGOV

attendees. CapWIN is a system that provides interoperability and database access to state and local police, fire and rescue users. It is an initiative of CEE's Center for Advanced Transportation Technology Laboratory.

COMING BACK

MOGLEN RETURNS TO HIS ALMA MATER TO BECOME SUCCESSFUL TEACHER AND RESEARCHER
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As a researcher, Moglen, who is also an associate research scientist for the National Center for Smart Growth Research and Education, is drawn to the issues of the environment and the impact development has upon it. "Our consumption of the landscape far outstrips the simple population growth in this country," he says. "Not only are we growing, but in a more consumptive way. I want my research to help make land development decisions in a more deliberate and conscious way with an eye towards the impact on streams and other water resources."

Moglen is a member Maryland Hydrology Panel which sets policies and procedures for hydrologic studies in Maryland. He has also been a visiting hydrologist for the U.S. Geological Survey's Office of Surface Water. His work there resulted in a study providing researchers with new ways of predicting flooding in urban watersheds. The study developed methods of applying existing Geological Survey flood estimates, which generally apply to rural areas, to more urbanized areas by taking into consideration either the amount of impervious surfaces or existing population density within the watershed.

Currently, he is working on two separate but similar studies, one with the U.S. EPA and the other with NOAA-SeaGrant. Both studies examine possible future configurations of the landscape under continued development, relating land use change to changes in flood behavior and water quality impacts.

He admits that the research itself is not always enough to inspire change. "It's about public policy and getting the ear of those individuals who make the decisions," he says of his work. "We need to think about how best to meet the needs of people and still have some sense of the environment around us."

Moglen need only to step outside his own back door to understand the significance of this. Near his home in Montgomery County, there is a creek. "I walk down to it with my kids," he says. "And, when I pass by it, I always check on it, see how it is flowing, whether it is clear and what the stream banks look like. The other day, I saw deer."

Adding, "This is something I care about."



MOVING UP

STEPHANIE PETERS FINDS CAREER SUCCESS BY TAKING RISKS AND LEARNING NEW THINGS



Stephanie Peters admits she'd rather be at Disney World. "I would one day love to move to Florida and work at Disney World," she says. "I'm a huge fan. I'd visit three or four times a year if I could afford to. I think that is one thing I may do after I retire."

But, in the meantime, as far as jobs go, she says CEE is a good place to be. Peters recently joined the department as a business manager. For Peters, it is another step towards her career goal. "My goal is to one day be a director of administrative services," she says. "Lisa Schuetz (CEE's director of administrative services) has been mentoring me in that direction. Thanks to her, I can now see that as a possibility." Adding, "I think it always helps to have good mentor, and I hope that one day I too can help mentor someone else."

Peters first came to work at the university straight out of high school in 1993 with the plan of being employed on campus while getting her degree. "Then, I was going to

move to the outside working world," she says. That didn't quite happen. But, Peters has no regrets. "Originally, I had no aspirations to work my whole career at UMCP," she says. "Then I started to spread my wings and realized that I could move up. The key was to take some risks and move to new positions." Her career on campus began with her working on the "academic side," for the business school as an office clerk. After four years there, she went to work for the university's band program, primarily for the marching band. "This is where I got into the business side," she says. "And, also, where I learned a lot thanks to my co-workers."

She remained there for six years before taking a position with the Center on Aging as a coordinator. While there she was promoted twice and "learned more about the business/grant/contract side." "I realized that I liked the business side more than the academic side," she says. Adding, "I learned a lot about Medicaid and Medicare. And, I had a great relationship with my boss, Mark Meiners. We still keep in touch."

From there Peters went on to become a financial coordinator for the Institute for Systems Research; an assistant to the director for the Maryland Hybrid Networks Center or HyNet Center; and program coordinator for the Capital Wireless Information Network or CapWIN, before joining CEE.

Throughout her career, she has found working with students the most satisfying part of her job. "I really like working with the students, whether it be student workers or the students in the department, graduate or undergraduate," she says. "I think it keeps me young and more active. I know more of how the world is changing and what is going on because of the students. Before I came to CEE I was working with CapWIN which is located off campus with no students. I realized I really missed the campus, the students, and even the faculty and staff. So, I was happy to come back and be in the middle of it all."

Peters is pursuing a degree in legal studies. In fact, she already has a certificate as a paralegal. However, she does not plan to stray far from her work at the university.

"I've worked really hard to get where I am," she says. "I think I've ended up in the right place."

Not that she doesn't eye retirement from time to time. After all, she enjoys life outside of the office. A Creative Memories scrapbooking consultant, she is also a season ticket holder for the university football team and likes to read and hang out with friends and family. Then there's that plan to move to Florida and work at Disney World. "I guess I'll have to see how the years go," she says, smiling.



STUDENT NEWS

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where his brother's and other dead bodies had been thrown. His mother and sisters were taken away. He never saw them again. His father was shot and killed. The only surviving member of his immediate family, Twagirayezu was found and adopted by his uncle. His uncle brought him to the U.S. in 1996, where he has recovered and thrived. As he prepares for his next step, a job with Jacobs Engineering in Baltimore, Twagirayezu has not forgotten the genocide in his homeland. He speaks at rallies for Darfur to raise awareness of the genocide



there, "and will continue to speak at every opportunity. I tell people about my experience and about what can happen. It's still hard to talk about. It's not something you really get used to," he says.

photo courtesy: http://platform.blogs.com/passionofthepresent/2005/06/rwanda_genocide.html



Project Perry Golf Event Is Coming

Project Perry Golf is a non-profit charity that raises money for the Perry Laudenslager Memorial Scholarship fund at the A. James Clark School of Engineering. This scholarship was established in memory of Perry Laudenslager, who graduated in 2003 and passed away in a tragic car accident in 2005. The scholarship supports deserving students in the CEE who possess the qualities that were exemplified by

Perry Laudenslager. Project Perry Golf donated nearly \$7,000 to the scholarship fund last year. This year's event will take place at the Potomac Ridge Golf Course on Oct. 19, 2007, and is expected to raise over \$12,000 for the scholarship. Priority deadline for signing up for the tournament is Sept. 15. The event is being sponsored by the Greater Waldorf Jaycee Foundation and Geotechnical and Environmental Associates (GTA). To register, email ProjectPerry@hotmail.com or call Bill Scott at (703) 946-9960. For information on how to make a donation directly to the scholarship, please contact Radka Nebesky at radka@umd.edu.



Thomas T. Tryon Decorated With The Army Commendation Medal

Navy Reserve Cmdr. Thomas T. Tryon has been decorated with the Army Commendation Medal for participating in Operation Iraqi Freedom. The medal is awarded to individuals who, while serving in any capacity with the Army, have distinguished themselves by acts of heroism, meritorious achievement or meritorious service. Tryon received the medal for meritorious service as the director of the Facilities Engineer Team-South at Camp Arifjan, Kuwait. His professional skill and management expertise were critical to the successful completion of joint service project missions. He has served in the military for 18 years.

Jeffrey C. Robbert Joins Erdman Anthony

Jeffrey C. Robbert has joined Erdman Anthony as a project manager in the transportation group in the West Palm Beach office. Robbert has experience in the design of roadways and civil site projects with a specialization in urban environments.



Jack D. Fellows Is The Vice President Of University Corporation For Atmospheric Research

Jack D. Fellows, who received his bachelor's and master's degrees and Ph.D. from CEE, is currently vice president of the University Corporation for Atmospheric Research (UCAR) in Boulder, Colo. UCAR is a non-profit consortium of over 100 university members and affiliates founded in 1960 to enhance the capabilities of the universities to focus on weather- and climate-related

scientific problems that are beyond the scale of a single university. Prior to joining UCAR, Fellows served in the U.S. Congress as an American Geophysical Union Congressional Science Fellow and worked in the Executive Office of the President overseeing our nation's research programs.



Richard R. Shagogue Is A Senior Project Manager With EBA Engineering, Inc.

Richard R. Shagogue is a senior project manager for EBA Engineering, Inc., a civil engineering firm in Baltimore. His responsibilities include construction service support for several large Baltimore City projects. Prior to joining EBA, Shagogue worked for the Washington Suburban Sanitary Commission (WSSC), a water and sewage agency serving over 1.3 million people in Montgomery and Prince George's counties. During his nearly two decades with WSSC he was actively involved with such interjurisdictional water agreements as the Potomac River Low Allocation, which led to an agreement among the District of Columbia, states of Maryland and Virginia, and the Army Corps of Engineers on how to share the river during droughts; among other projects.

Timothy L. Kassir Is A Senior Project Manager With KCI

Timothy L. Kassir, who received his bachelor's degree in civil engineering in 1986, is a senior project manager within KCI's Transportation Division in Maryland. His responsibilities include management of design and plan preparation of all aspects of highway and roadway projects. Kassir is currently involved with the Woodrow Wilson Bridge Project as a project



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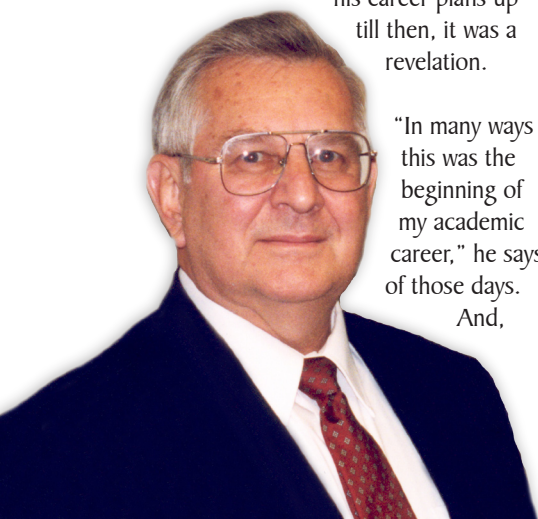
FROM CEE TO NAE

FOR ALUM RAYMOND KRIZEK STUDENTS AND SLURRIES ADD UP TO A FULFILLING CAREER

Raymond Krizek realized his calling 50 years ago on the university's campus. He was a graduate student working towards his master's degree while teaching classes in civil engineering. For Krizek, who had been uncertain about

his career plans up till then, it was a revelation.

"In many ways this was the beginning of my academic career," he says of those days. And,



At Johns Hopkins, he ended up choosing civil engineering mostly due to the fact that it was more "people-oriented." Krizek excelled and received his degree in 1954. The plan was for him to return for his master's degree in the fall. But, during that summer, Krizek worked in the design office of an engineering firm. "I didn't like it," he says. "I didn't enjoy the idea of sitting at a desk all day cranking away on a mechanical calculator."

Krizek began to reconsider his career plans. "I wasn't sure I wanted to continue in civil engineering," he says. He didn't return to Johns Hopkins. He worked briefly for a fledgling computer company and then satisfied his two-year ROTC commitment to the U.S. Army Corps of Engineers. "I was happy to go into the Army because I would not have to make any career decisions for two years," he says. He spent much of his time teaching

Northwestern University. After receiving his doctorate in 1963, he remained there, where he quickly moved up the ranks and eventually served as department chair for 12 years. Among his many accomplishments at Northwestern is the establishment of the Master of Project Management professional program. Krizek has also used his experience to evaluate a dozen different civil engineering departments around the country and make recommendations for improvement.

However, he is most proud of his work with students, serving as advisor to 60 Ph.D. graduates and more than 300 master's graduates. For him, this represents a real investment in the future of engineering and individual lives. "With Ph.D. students you usually live with them for three or four years. You get to know their wives or husbands, their religion, their medical history, and everything else about them. And, with master's students, you're with them for a year or two – depending on how smart they are," he says, chuckling. His students respond in kind. In 2002, his colleagues celebrated his 70th birthday with a symposium and banquet. Almost 150

"FOR THE FIRST TIME, I REALLY ENJOYED GOING TO WORK," HE SAYS. "I LOOKED FORWARD TO MONDAY MORNINGS. I WAS GETTING MY CAREER TOGETHER, GETTING FOCUSED. THIS WAS AN EXTREMELY POSITIVE TIME FOR ME. I COULDN'T UNDERSTAND WHY I HADN'T DECIDED TO DO THIS EARLIER." — RAYMOND KRIZEK

what a career it has been. Krizek, who went on to receive his master's degree in 1961, is today the Stanley F. Pepper Professor of Civil and Environmental Engineering at Northwestern University. He is a very distinguished geotechnical engineer who has taught countless engineering students while conducting pioneering work on the application of slurry mechanics to address various geotechnical engineering problems. "I have been very lucky," he says.

In many ways, Krizek, who grew up in rural Maryland, was lucky from the start. A gifted student, especially in math and science, he received a scholarship to attend Johns Hopkins University to study engineering. "I had never really considered engineering," he admits. "But, I was certainly oriented that way."

at Fort Belvoir and when he left active duty, he was intrigued by the idea of teaching in an academic environment.

"I was looking for a university to get my master's degree and then perhaps join their faculty," he recalls. The University of Maryland was a natural choice for him. "It was in my home state, and I knew they had a solid engineering program."

Standing before a class invigorated him. "For the first time, I really enjoyed going to work," he says. "I looked forward to Monday mornings. I was getting my career together, getting focused. This was an extremely positive time for me. I couldn't understand why I hadn't decided to do this earlier."

Krizek received his master's degree in 1961 and then decided to pursue his Ph.D. at

attended, including former students from such far-flung places as Spain, France, Taiwan and Australia. "That was a very heartwarming and humbling experience," says Krizek. "It was quite a day."

But, his career has not been confined to his work in the classroom. In the early 1970s he became involved with the disposal of polluted sediments dredged from the nation's harbors and waterways. "At that time these dredged materials could simply be dumped in the ocean or bay or lake," he says. "The EPA put a stop to this practice and prohibited the disposal of these materials in open waters. The questions then became, where to deposit them and how should 'polluted' be defined?" Krizek became the go-to guy in addressing issues such as this, involving the disposal of large volumes of slurry wastes from various

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PICTURE PROFILE



The Ninth Annual Maryland Day was celebrated all across the University of Maryland campus on Saturday, April 28, 2007. Here is a glimpse into the CEE's activities in the celebrations.



ENCE 305: FUNDAMENTALS OF ENGINEERING FLUIDS

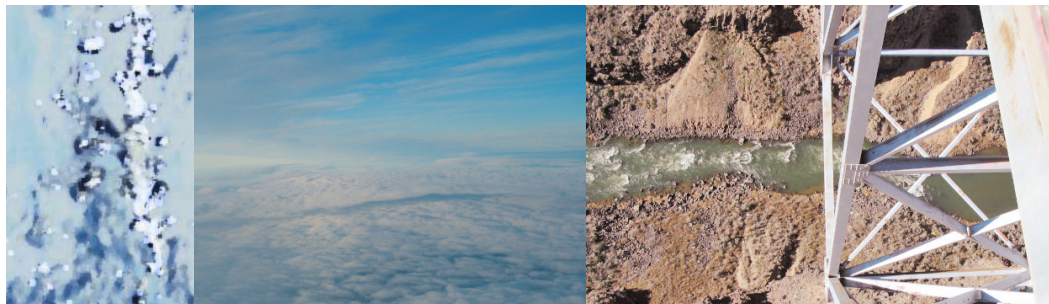
STUDENTS LEARN MANY APPLICATIONS OF FLUID MECHANICS

Fluid mechanics is applicable to all aspects of engineering and can impact our daily lives in countless ways—from safer streets and highways to building a better baby bottle. That is the point that Richard McCuen stresses in his ENCE 305: Fundamentals of Engineering Fluids class. “I don’t want students taking the class to leave thinking that fluids is only something a water resources major would use and not a structural engineering major,” says McCuen. “Fluids is equally important to all majors in engineering and relevant to all areas in civil engineering.”

As he further explains, “Structural engineers must design for wind loadings — air is a fluid. Transportation engineers deal with wet pavements and hydroplaning, as well as highway drainage of rain water. Geotechnical engineers are concerned with water pressure behind retaining walls. Pollutants are transported in river flow so environmental engineers need knowledge of open channel flow. And, students of project management require knowledge of pumps to evacuate flood waters from construction sites.”

The course focuses on the theoretical bases for fluid statics and dynamics, including the conversion of mass, energy, and momentum.

Modeling of hydraulic systems is introduced and the course emphasizes pipe flow and open-channel hydraulics with real-world applications. In other words, McCuen, who has taught the course since first coming to campus 36 years ago, teaches by demonstrating how these processes are actually used in engineering.



“I think the most interesting aspect of the class was the use of these real-world examples,” says student Jason Becker, a junior environmental engineering major.

In ENCE 305 “Archimedes principle is used as the basis for the design of a floating terrorist barrier to protect ships and the design of a Styrofoam pontoon bridge for military tanks,” says McCuen. “The principles of momentum and drag force are used in the design of an amusement park water slide, an instream bridge pier,

traffic lights subjected to wind loads, and a hot air popcorn popper. The fundamentals of pumps are used in the design of an auxiliary heart pump for those awaiting heart transplants. And, the energy equation is used to design an urban stormwater detention facility.” The principles of fluids are also used to evaluate systems. For example, the energy equation is used to evaluate the functioning of a baby bottle. “There’s been a drastic change in the design of baby bottles,” says McCuen, who takes bottles into the class to show old and new designs. McCuen also uses examples that span the power of a tornado to the intricate

biology of a mosquito when discussing fluid pressure and pipe systems.

“At first I found the class inapplicable to anything I was interested in doing. But several examples showed me that fluid mechanics has a great impact on any number of things,” says Duan Chen, a senior biological resource engineering major. “What made the strongest impression on me was when Dr. McCuen talked about pressure in relation to the human

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FROM CEE TO NAE

FOR ALUM RAYMOND KRIZEK STUDENTS AND SLURRIES ADD UP TO A FULFILLING CAREER

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industrial processes. Through his research and work with industry and government, Krizek contributed to several standards of practice for disposing of waste slurries and for injecting grout slurries into soil deposits. His major contributions include incorporating more science into grouting operations, including use of a newly developed microfine cement as a specialty grout; developing a dry stacking methodology to dispose of red mud tailings; developing the rationale and supporting data to modify design procedures for manufacturing reinforced concrete pipe; developing various criteria for handling and impounding dredged materials, including time rate of densification and strength gain, storage capacity of containment areas, and effectiveness of filter elements to clarify effluents; and establishing procedures to improve the engineering properties and disposal characteristics of double alkali flue gas desulfurization sludge.



“As an engineer, I get great satisfaction in having someone come to me with a problem for which I can provide a solution,” he says of his work.

He is a founding member of the International Water Resources Association and has given successful testimony on dam safety before Congress. In recognition of his contributions, he has received numerous honors and awards, both here and abroad, including being elected to the Spanish Royal Academy of Engineering in 1999 and the U.S. National Academy of Engineering in 2001; among others.

His has been a career well-lived. And, whether it is guiding and mentoring future engineers or providing answers to engineering problems, Krizek has one goal in mind. “I would like to think that my legacy will be to leave this world a little better than I found it,” he says.



MILLER-HOOKS COMPLETES STUDY ON EUROPEAN RAIL FREIGHT INDUSTRY

PRESENTS FINDINGS AT CONFERENCE IN BRUSSELS



REORIENT

IMPLEMENTING CHANGE IN THE EUROPEAN RAILWAY SYSTEM

Elise Miller-Hooks, an associate professor, is drawn to her work as a transportation engineer because "it enables me to have a real impact on society. I get to work on things that I feel are important and may make a contribution in a valuable way," she says.

That is most certainly true in regards to her involvement with REORIENT.

REORIENT, which is funded by the European Commission, was established to assess the process of transforming the European railways intermodal operating systems. More specifically, REORIENT is looking to identify and develop business concepts for trans-European rail freight transport, making it more competitive with road transport. And, the project is assessing the extent to which the European community's inter-operability legislation

contributes to successful implementation of the business concepts.

As such, Miller-Hooks' research could impact many lives in countries throughout the REORIENT corridor in Eastern and Central Europe, from Norway and Sweden to Poland and Hungary to Greece and Italy. Miller-Hooks, working with a research team from the university,

presented her findings at REORIENT's final conference in Brussels this past May. She has been involved with the project since 2005.

As part of REORIENT, Miller-Hooks worked with providing strategies for identifying and removing technical, cultural, social and managerial barriers facing the implementation of a competitive inter-modal rail freight service across national boundaries. The project also involved coming up with a collaborative decision-making framework by which different entities in different countries, including private service providers, could jointly manage complex systems in real time. According to Miller-Hooks, this work will eventually support the development of a businesses case for private carriers to come in and provide such a service.

A significant part of Miller-Hook's involvement with REORIENT was serving as coordinator of network modeling activities needed to support the project. The network modeling platform supported the evaluation of different strategies and measures intended to improve the prospect of rail freight in the corridor, as well as improvement of capacity and service levels.

"There are so many benefits to this," says Miller-Hooks of trans-European rail freight

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manager, including the preliminary and final design for the I-95/I-495/Md. Route 210 Interchange, consisting of three construction contracts totaling \$150 million.



Andreas Wolf Is An Operations Manager For Leducor

Andreas Wolf, who graduated in 1986, is an operations manager for the Las Vegas office of Leducor, a \$2 billion corporation. Since beginning his career, Wolf, who has worked for eight firms in nine different states, has been involved in building \$88.4 million in public sector projects, including \$40.3 million in facilities for NASA. He has also led approximately \$43 million in construction on the Strip in Las Vegas; constructed

an additional \$267.1 million in commercial facilities in the Las Vegas market; and provided pre-construction services for an additional \$1.94 billion in projects off the Strip.



Temple McCoy Is A Project Manager With Department Of The Army/U.S. Army Corps of Engineers

Temple McCoy is working as a project manager with the Department of the Army/U.S. Army Corps of Engineers in Maryland. During her seven-year career, she writes that she has "worked

everywhere from Las Alamos National Laboratory to the San Francisco VAMC as a research project engineer and it's been an awesome experience."

Dave Street Is Devoted To The Weather

Dave Street, who received his bachelor's degree in 1970 and master's in 1971, has spent his entire career, over three decades, with the National Weather Service. He began his career as a river forecaster in Anchorage and was the recipient of the Government Employee of the Year for the state of Alaska in 1984. He writes, "The highlight of my career which aided me in getting the Government Employee of the Year was going to China in 1983 for the United Nations' World Meteorological Conference."

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Dr. Jennifer L. Cook

In making the presentation at the final conference, Miller-Hooks and her research team reported that intermodal rail share could be increased and better utilized by improving border operations, making infrastructure improvements, providing greater access to services, and relaxing scheduling constraints. The researchers also pointed out that further improvement of the system would be possible by allowing more efficient priority allocation to different services. And, in conclusion, the research team stated that managing the rail system in the 21st century will require new management models and that the most promising models would be based on collaborative decision-making architectures.

A portrait of Dr. Robert A. M. Jones, a man with a grey beard and glasses, wearing a suit and tie.

Adds Becker, "The motion of fluids is so important in the environmental field, and this course helped to introduce me to those fundamentals."

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